ANALYSIS

Libraries, Lakes, and Liposuction:

An Exploratory Content Analysis of Adirondack-North Country Communities' Web Identities

By ELIZABETH R. BERNAT, TIM CLUKEY, AND JONATHAN R. SLATER

Abstract

Building upon previous community Web visibility findings, this study investigated the extent to which the Web identities of our region's communities were crafted through grassroots communication, as well as the extent to which these communities' online identities communicated the potential for local economic development. Findings indicate that consumers navigating the Internet would be unable to extract a reasonable sense of place about many of our communities, in part because few of our regional community identities are fashioned through locally produced community information. Instead, emerging search engine and Web dynamics include colonization by an increasing number of external agents producing communication about local communities, often without any coherent connection to those locales. Content analyses of community Web pages also reveal that the extramural production of Web information minimizes the direct potential of the Web to foster local economic growth.

All three authors are Assistant Professors in the Department of Communication at Plattsburgh State University of New York. They formed the Community Web Visibility Project Team in 2000. *The authors express gratitude to Jessica Atkinson, Research Assistant, for her participation in every recent aspect of the CWV Project. The team wishes to thank the Plattsburgh State University Research Foundation and the Office of Sponsored Research for the funding that permitted the present data collection and research assistance.*

Introduction

Communities stand as powerful symbols of American life. In every aspect of public discourse, the idea of "hometown" remains central to how Americans think of themselves politically, culturally, and socially. While citizens express concerns about the national economy, those concerns are, more often than not, merely projections of their worries about a healthy economy at the community level. For civic leaders and community members in general, it is often difficult to detach such concerns from the sentimentality most feel about their hometowns. These feelings can be rooted in traditional spatial contexts of community — the bricks and mortar of community-based businesses and institutions — plus the peaks, lakes, and valleys that keep bringing visitors back year after year. As a result, a community's self-examination of its economic challenges tends to focus on the physically tangible and visible components of the community's economic landscape, while other, less tangible elements are passed over in the analysis.

For a number of reasons, one component of this landscape that has not received the attention it deserves is the virtual (i.e., online) communication environment that every community, without exception, inhabits. In 2000, the present researchers initiated the Community Web Visibility (CWV) Project and began to turn their attention to the relationship between the personalized, digital universe of the World Wide Web (the Web) and the visibility of local communities (Bernat, Clukey, & Slater, 2003). What the investigators asserted was that the Web offers geographic communities (what sociologists call "communities of place") the potential to communicate a presence for themselves in ways substantially different than traditional mass media have permitted. While the Web and other communication media enable communities to become perceptible (i.e., visible) among groups and individuals who are situated beyond the physical confines of the community's geographic locale, the Web gives communities a brand new opportunity to produce and publish information about themselves and to reach, at minimal cost, the whole world with that information. Since a common physical location does not necessarily imply a common economic purpose, commercial advantages to the Web become appreciable only when community agents concertedly promote their community's existence and defining features, from within, such that multiple efforts might coalesce into something useful to the universe of Web navigators.

Communicating Identity with Local Voice

When information about a geographic community originates locally (what might be colloquially termed "grassroots" communication), one or more of a community's stakeholders, agents, and participants within the community itself quite clearly becomes the community source that issued the information content. Such content might come in the form of various promotional

efforts, including intentionally crafted, paid, non-personal advertising messages or public relations campaigns that largely rely on stimulating publicity through various news media. Thus, from a purely mechanistic perspective, a genuine *grassroots communication* could best be described as information created by community members about the community and disseminated by the community, then published using channels of communication controlled or owned by the community. While it is likely that many attempts at grassroots communication could easily fulfill the first two criteria of the definition, it is equally unlikely that many communities in today's world of media convergence, consolidation, and corporate domination could claim total control or ownership of the outlets through which their communications travel.

Even so, locally originated communication is much more than a mere process of the engineering and distribution of information. To be considered grassroots, the content of such communication would need to depict the tangible physical components of the community system (e.g., attractions and features), reflect the community's history, or evoke the less tangible, more complex, shared psycho-socio-cultural, political, and ethical aspects of the community (e.g., its collective values and lifestyles). Ideally, an external consumer (i.e., Web user) of grassroots content should be able to extract a sense of place about the community under virtual exploration without entering the physical space of the community in question (see Maser, Beaton & Smith, 1998).

Unfortunately, for many communities, neither the origin nor much of the content of communications about them seems in large part to emanate from the communities themselves. Rather than evolving into an articulate, rhetorical voice for localities, it appears that the Internet is being colonized by an increasing number of *external agents producing communication* involving local communities. Information that is conceived of, issued, and disseminated by stakeholders outside the community in question poses a threat to the virtual identity of the community. At a minimum, extramurally generated content may appear to lack any coherent connection to those communities, creating for the communities an ill-defined Web identity. More damaging than that, information that does not serve the needs of the geographic community can seriously misrepresent both the physical and intangible realities of a community, one that powerfully affects the impressions of the potential visitor. Mass media pundit Marshall McLuhan (1964) foresaw just this effect when he postulated the transmogrification of the planet into a "global village" — a dis-integrated global economy shared by communities all over the world — engendered by far-reaching systems of communication in which the source of a message and the identity of its creator are, more often than not, ambiguous.

In contrast to externally produced communication, grassroots communication inherently lends a voice to a community. Rural communities — often at a political and economic disadvantage compared to larger urban and metropolitan neighbors[1] — feel a particularly acute need to communicate, in other words, to be heard and seen at some regional or national supra-level. Communication, especially via electronic means, allows isolated rural communities at some distance from urban or metropolitan areas to feel connected at least to their region, if not to their country and to the entire planet. Moreover, the communication outputs of many rural communities are oftentimes directly linked to the communities' economic inputs, for example, the capacity to attract tourism and travel, as well as to spur new business development and lure people to settle in these communities.

However, even remote, rural communities are not immune from sweeping societal shifts ushered in by changes in media technology, including new modes of information (see Poster, 1990). Since the inception of the digital era, the ability of communities to pro-actively apply communication — not just to remain passive consumers of it — is becoming especially crucial to the social development and economic sustainability of smaller, out-of-the-way communities.

Promoting Economic Development

One of the objectives of initiating communication at the local community level is to promote community development, often in the form of economic development. Some economic development experts see the economic development process as akin to the marketing process, in which community leaders take an active role in persuading customers (i.e., tourists or potential business investors) that there exists some important advantage of the community that makes it a unique place to visit or locate (Dunn & Hog, 2003). Community leaders generally consider differentiating one's community from other communities as crucial to the customer's decision-making process. In certain instances, it might be the tangible, visible features of the community that set the community apart from competing communities, or it might be such less tangible (but no less persuasively substantive) elements as the social, political, historical or cultural climates that distinguish the community.

However, economic development encompasses efforts that are more profound than this, as the conceptual definitions of economic development reveal. The activities designed to spur economic development usually are expressly and concertedly conducted in order to afford communities a qualitative improvement of their economic subsystems (CADI, n.d.), that include employment, production and industrial well being (CTAA, n.d.), all in the hope of raising a community's level of prosperity and material living (Spero & Hart, 2003). The current belief is that by attracting more resources to a community and by increasing a community's output at less total cost, a community can

indeed achieve this (New York, 2000). Tactics designed to further community economic development also must be strategic in nature. And such strategies must be conceived with specific goals and benefits in mind, "in contrast to opportunistic and unsystematic tactics" (Centre, 2003, ¶4). Overall, community planners seem to agree that economic development must strike a manageable balance between economic and non-economic considerations, foster capital generation and asset retention within a community, and ultimately be sustainable over the long term.

The Media Landscape and Community Sustainability

The fundamental problem about sustainability is that well into the media age community leaders by and large do not recognize that "media environment and community are inextricably bound" (Gumpert & Drucker, 2003, p. 1). While community leaders will likely agree that to become truly sustainable communities must adopt a systemic vision that encompasses a complex assortment of economic, environmental, and social concerns, they have paid little heed to ways media technology contribute (or not) to their communities' sustainable futures. Community members typically view their economic landscape and their communication landscape as competing variables, in which the former focuses on issues of self-sufficiency and quality of life, and the latter focuses more on macroscopic social and economic forces.

Nevertheless, to remain cohesive in the face of these forces (which McLuhan clearly alluded to as dissociative), communities will be compelled to bridge the two landscapes (Gumpert & Drucker, 2003). They will have to redefine the notion of sustainable community as one that (1) encompasses more than just their physical or geographic neighborhoods; (2) depends on a communication infrastructure that enables coherent, outward communication by community stakeholders, as well as accessible inbound communication to the community by outsiders; and (3) *is capable of shaping and transmitting, through the various communication media, a genuine narrative about the community that systematically re-presents, as best as possible, the community mosaic.*

As our Adirondack-North Country communities contemplate their digital infrastructures and strategize self-promotion in a rapidly changing communication landscape, it becomes critical to benchmark and monitor their Web identities. In essence, it is vital to analyze the grander narratives about the region's communities that are, and are not, interpreted by potential visitors and investors as they attempt to experience a community on the Web. A previous study of our region's Web presence distinguished one structural variable of a community's Web identity — namely, visibility. Building upon these community Web visibility findings, the present investigation attempts to content analyze and gauge the strength of that identity by querying the following:

RQ1: To what extent are Adirondack-North Country communities' Web identities fashioned locally (i.e., through grassroots communication) versus determined by extramural sources?

RQ2: To what extent do Adirondack-North Country communities' Web identities contribute to the potential for local economic development?

RQ3: Do communities with higher orders of Web visibility also demonstrate a higher level of locally initiated and economically related Web identities?

Methods

Interpreting the intensity and focus of a community's Web identity requires a content analysis of the Web pages retrieved in the process of querying community information using search engines. However, with thousands or tens of thousands of available Web pages per each search, complete content analysis of all Web pages for a given community is neither practicable nor entirely useful. Research has revealed that a common user threshold for culling through Web pages returned in a search query is approximately 30 pages (Xu, 1999). Thirty pages are also quite sufficient for Web navigators to forge impressions about the physical reality of a community based on the assemblage of information immediately before them.

Therefore, the first 30 Web pages available for each of 48 Adirondack-North Country communities[2] were coded along two dichotomous dimensions: (1) the Web page's "Source of Origination/Production," and (2) the Web page's "Relevancy to Economic Development (ED)." Each Web page descriptor and the full first page of the Web site were printed, examined, and coded according to the following procedures.

Source of Origination/Production

Concerning "Source of Origination," each Web page was determined as either "locally initiated" (i.e., "grassroots" communication — coded as "G") or "extramurally-produced" (coded as "X"). Grassroots communication included those sites that appear to have been produced by an agent (i.e., person, business, or stakeholder) *within* the local or regional community that promoted or provided information about some facet of the community. Examples of locally initiated Web sites included those for a local shop or other home-grown business; a racetrack, boat launch, or other local feature/attraction; and the City, Chamber of Commerce, or other composite agency.

Alternatively, Web pages that appeared to have an origin outside the community, and/or were derived from a directory or domain unrelated to the community, but connect to or acknowledge the local community in some way,

were considered to be "extramurally produced." Extramurally generated sites were generally sponsored or available through national domains such as genealogy or obituary sites, yellow pages directories, national or professional association registries, and discount food, lodging or other business chains. Pages that were, in and of themselves, dead links, unavailable due to browser error, or completely irrelevant to the community were coded as missing.

Relevancy to Community Economic Development

Though the phrase "local (or community) economic development" is a commonplace expression, there are few operational definitions provided in the literature produced by community leaders who use the term. The authors used a simplified definition derived from a thematization of ED literature. Economic development is defined here as the ability to foster capital generation and asset retention within a community. Therefore, a Web page with the potential to bring in capital and/or retain local assets, even if indirectly, was considered "Related to Economic Development" and coded as "E." Common examples of "E" Web pages included any information representing the following: a restaurant, hotel, or other area business; a local attraction or natural feature (e.g., lake, cultural arts center); maps of or directions to the community; a directory that permitted the user to search for area attractions or businesses; real estate or job listings; and area resources that individuals often seek when visiting or relocating (e.g., libraries and churches).

Those Web pages that lacked any likelihood for bringing in or retaining capital by the information provided on the page were coded as "N" — "Not Related to Economic Development." Common (frequently occurring) examples of "N" Web pages included pages that offered USGS data or other land/air specifications; obituary, ancestry, or genealogy information; roommate or romantic matching services; past war compensation records; and virtual meet-up invitations unrelated to the specific community (e.g., Xenga enthusiasts).

Coding Procedures

Several months prior to the present analysis, the four members of the CWV project team (three researchers/authors and one research assistant) created a codebook including the conceptual and operational definitions of the variables. All four members used the definitions to pilot-test the coding scheme on the first 30 Web pages available for a sample of 10 communities (for a total of 300 pages). The resulting 90 percent agreement well exceeded standards and was considered an initially reliable system with which to proceed.

For the present analysis, the same four individuals participated in the Web page coding. An updated compilation of the first 30 pages for each of the 48 Adirondack-North Country communities was printed and examined. Each of the total 1,440 Web pages was independently coded on both dimensions by combinations of two-coder teams. The immediate percentage of agreement on both of the variables exceeded 80%; however, mid-way through the coding process, a few common denominators among discrepant codes were detected.[3]

Following discussions of these and other minor incongruities, the codebook was corrected to ensure a consistent application of the coding scheme to the Web pages. At the completion of the coding process, there was a total 96.3% pair-wise coder agreement (kappa = .88) on the Source of Origination ("G" versus "X") variable and 90.8% agreement (kappa = .80) on the Relevancy to Economic Development ("E" versus "N") variable.[4] In the 10% of cases over which discrepancies in the coding occurred, the Web pages were given to the remaining two coders. A final determination was made based on the results of the re-coding procedures.[5] Less than two percent of the Web pages were deemed difficult to code; in these cases, all four coders discussed the pages and reconciled by consensus.

Results

All three research questions, taken together, queried the extents to which Web identities of our region's communities were fashioned locally and contribute to the potential for economic development. Table 1 displays the frequencies and valid percentages of Web pages that were deemed locally initiated versus extramurally produced, and related to economic development versus unrelated to ED. As is obvious, when all 48 communities were combined, an overwhelming majority of the community Web pages (80.4%, n = 1130) was generated from outside our local communities, with about one-fifth of the pages (n = 275) having intra-community origins. On the ED/non-ED dimension, 65.1% (n = 915) of the Web pages related to variables of economic activity, while 34.9% (n = 490) lacked any potential for asset retention or capital generation.

Table 1 also displays the frequencies of each coding designation with the communities divided into four "tiers" or quartiles that group communities according to their comparative Web visibility (see Bernat, Clukey, Slater, 2003). Web visibility was considered to be the extent to which a community can be seen online by Web navigators, determined by the number of pages available after a search engine query. Therefore, the greater number of pages available, the higher the community's Web visibility will be.

It is clear from the comparative percentages in the table that those communities with higher visibility also have their first 30 pages constituted by higher proportions of ED-related and locally initiated Web pages. On the Source of Origination variable, chi-square analysis revealed this relationship to be statistically

Table 1.

Community Web page production source and connection to economic development.

	Source of Origination				Relevancy to Econ. Dev.				
	Local (G)		Extramural (X)		Related (E)		Not Related (N)		
Communities	Freq	Val.%	Freq	Val.%	Freq	Val.%	Freq	Val.%	Val. N
All Communities (48)	275	19.6	1130	80.4	915	65.1	490	34.9	1405
Top Quartile (12)[a] of Communities	95	27.1	256	72.9	243	69.2	108	30.8	351
Second Quartile (12)[b] of Communities	62	17.7	289	82.3	264	75.2	87	24.8	351
Third Quartile (12)[c] of Communities	73	20.9	276	79.1	241	69.1	108	30.9	349
Bottom Quartile (12)[d] of Communities	45	12.7	309	87.3	167	47.2	187	52.8	354

a Communities in the top quartile are: Canton, Frankfort, Glens Falls, Granville, Johnstown, Lake George, Lake Placid, Malone, Mayfield, Peru, Plattsburgh, Potsdam.

b Communities in the second quartile are: Gloversville, Herkimer, Little Falls, Massena, Moira, Northville, Ogdensburg, Queensbury, Saranac Lake, Ticonderoga, Turin, Warrensburg.

c Communities in the third quartile are: Broadalbin, Croghan, Fort Edward, Gouveneur, Hudson Falls, Ilion, Indian Lake, Long Lake, Lowville, Moriah, Speculator, Tupper Lake.

d Communities in the bottom quartile are: Beekmantown, Dannemora, Fort Ann, German Flatts, Harrietstown, Lake Luzerne, Lake Pleasant, New Bremen, North Elba, Schuyler Falls, White Creek, Willsboro.

significant (X^2 = 24.316, df = 3, p = .000), with the paired relationship between the top and bottom quartile contributing most to the omnibus difference. There was a more pronounced difference among the communities on the Relevancy to Economic Development dimension (X^2 = 70.925, df = 3, p = .000), with the paired relationships between the bottom quartile and each of the other quartiles contributing to the omnibus difference.

More telling than the individual breakdowns in codes were the composite codes on both dimensions. In the second phase of analysis, the two codes for each community Web page were combined. Each of the combinations reduced community Web pages to one of four types, varying in their usefulness in attracting and retaining local capital. The typology of code-pairs is as follows:

- Type I: GE - Locally initiated, and related to ED;
- Type II: XE - Extramurally generated and related to ED;
- Type III: GN - Locally initiated and unrelated to ED; and
- Type IV: XN - Extramurally generated and unrelated to ED.

Table 2 displays the frequencies and valid percentages of each Web page type, for the communities overall and for each tier of community Web visibility ranking.

With all communities taken together, almost half of the valid Web pages (46.8%, n = 657) were ED-related but generated by extramural sources. The most commonly occurring "XE" pages across all communities are church listings (e.g., *churchangel.com*), city guides (e.g., *ePodunk* or *CQDX*), and various hotel, dining, and physician directories (e.g., *discount-hotels.com*).

Another third of the Web pages (n = 473) were produced extramurally, with no relevance to ED. The most commonly occurring "XN" pages across all communities are those related to genealogy or obituaries (e.g., *rootsweb.com, usgennet.org*), area data [e.g., *ny.weather-forecast.ws, docs.unh.edu* (Historic USGS maps per quadrangle), *e-history.com*], and other services (e.g., *community.webshots.com, roommates.com*).

A much smaller percentage of the total pages were produced locally (n = 275), with a majority of them (n = 258) related to ED. These locally produced pages often promoted bed and breakfasts, libraries and lakes, recreational activities, special events, real estate, and general tourist information offered by town/city bureaus. A scant 1.2% of the Web pages

were locally initiated and non-ED (n = 17 out of 1405). Pages such as these, crafted by community agents that do not directly benefit asset retention, appeared as useful for community-building or information-sharing among existing members.

As in the previous analysis, communities were divided according to visibility quartile to examine whether higher visibility corresponds to increased grassroots communication and relevancy to ED. Chi-square analysis performed on the Web page types related to the four visibility quartiles revealed a strong omnibus difference (X^2 = 92.699, df = 9, p = .000). There is little difference between the middle two quartiles, but the difference between the top and bottom communities is rather pronounced. Communities in the top tier had more than twice as many of their Web pages in the "GE" category — the best condition for communicating community identity. Conversely, the less visible communities were far more prone to "XN" Web pages constituting their virtual identities — the most injurious condition for conveying hometown sentiment.

Discussion

The findings from these analyses, combined with the researchers' observations of ongoing Web dynamics, point to a number of conclusions of which community leaders should be aware. First, there should be obvious concern drawn to predominance of extramural sites that are, so to speak, colonizing Adirondack-North Country cyber-real estate and taking the place of local community voice. This concern is two-fold.

The first aspect of the concern evokes the question: Whom do you want in charge of shaping your local economy? The preponderance of sites that are returned by a search engine might on the surface appear related to a community, but what becomes apparent on second glance are combinations of yellow pages sites and other types of oft-repeated directories that do not substantially convey the spirit or identity of the community itself. In fact, many of the so-called community sites scrutinized in the present study did not look very community-like at all. At first glance, such sites might seem to provide visitors with a virtual introduction to the town, but further exploration shows that they communicate a generic impression that a Web navigator soon learns to ignore.

The second aspect of this concern is about what lies beneath the surface. Many Web sites originating far outside a community, but which may indeed contribute to the community's Web visibility, commonly require users to navigate within them through a series of deviating layers that direct users away from the content they sought as their goal in the original search. Navigators are subtly dissuaded from their original query path and, instead, are shunted toward content devised for the benefit of the extramural information sources and the advertisers supporting those sites. When non-neutral, commercially biased sources steer

Table 2.

Composite Typology of Web pages.

	Type I: GE		Type II: XE		Type III: GN		Type IV: XN		
Communities	Freq	Val.%	Freq	Val.%	Freq	Val.%	Freq	Val.%	Val. N
All Communities (48)	258	18.4	657	46.8	17	1.2	473	33.7	1405
Top Quartile (12)[a] of Communities	91	25.9	152	43.3	4	1.1	104	29.6	351
Second Quartile (12) of Communities	58	16.5	206	58.7	4	1.1	83	23.6	351
Third Quartile (12) of Communities	67	19.2	174	49.9	6	1.7	102	29.2	349
Bottom Quartile (12) of Communities	42	11.9	125	35.3	3	.8	184	52.0	354

a Communities in each quartile are the same as those footnoted in Table 1.

navigators farther from their initial intent of finding community information, communities themselves may suffer as a result, especially if a community has made little or no effort to establish a virtual, grassroots identity.

The reasons for low numbers of locally initiated Web pages require speculation that is perhaps beyond what the researchers can provide. Most obviously, low numbers of locally initiated Web pages may, in fact, be due to lower numbers of businesses and features that inhabit a geographic area. Still, it seems reasonable that any community-as-a-whole may wish to promote itself as part of a regional area, and this is an aspect of identity for which we believe certain regions are sagging. Perceived cost may also be a factor. However, local governments can promote their communities' offerings on .gov domains (currently for free) that are seriously underutilized. Further, increased Web visibility requires participation beyond governmental agencies, inclusive of as many locally separate community agents as are available in a given locale. A strong, unified, virtual identity requires community leaders' commitment to Web promotion — and attention to their digital infrastructures overall — for continued tourism and business development.

Another hesitation to promote communities on the Web may indeed be the perception that a small business or single Web page might not be able to compete with larger outside agencies for high search engine ranking. However, an ancillary analysis proved this to be a misplaced concern. The Web pages for all 48 communities were grouped according to search engine ranking — (1) those ranked 1 through 10; (2) those ranked 11 through 20; and (3) those ranked 21 through 30. As the first two columns of data in Table 3 show, locally generated Web pages ("G") were about twice as likely to appear within the first 10 Web pages returned by a search engine, a difference that was statistically significant ($X^2 = 39.213$, $df = 2$, $p = .000$). This result offers promise to communities. The creation of grassroots communication has, at this time, appeared in a highly visible search engine location.

The second area of discussion surrounds a closer look at the economic development potential of our region's Web pages. The data urge the question: Are Adirondack-North Country communities using the Web to their economic or

Table 3.

Community Web page production source and connection to economic development per page of listings.

	Source of Origination				Relevancy to Econ. Dev.				
	Local (G)		Extramural (X)		Related (E)		Not Related (N)		
Communities	Freq	Val.%	Freq	Val.%	Freq	Val.%	Freq	Val.%	Val. N
All Web pages	275	19.6	1130	80.4	915	65.1	490	34.9	1405
Web pages 1-10[a] for each community	135	29.0	331	71.0	324	69.5	142	30.5	466
Web pages 11-20 for each community	72	15.3	398	84.7	300	63.8	170	36.2	470
Web pages 21-30 for each community	68	14.5	401	85.5	291	62.0	178	38.0	469

[a]Tiers of Web pages determined according to the order in which they were retrieved by the search engine Google.